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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/090,315	06/04/1998	HOWARD E. RHODES	M4065.059/P0	3755

24998 7590 11/06/2002

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP  
2101 L STREET NW  
WASHINGTON, DC 20037-1526

EXAMINER

GEBREMARIAM, SAMUEL A

ART UNIT PAPER NUMBER

2811

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/090,315

Applicant(s)

RHODES ET AL.

Examiner

Samuel A Gebremariam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 28-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of group I, claims 1-16 and 28-31 drawn to a semiconductor device in Paper No. 5 is acknowledged.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, is rejected under 35 U.S.C. 102(b) as being anticipated by Shibata et al., US patent No. 4,827,118.

Regarding claim 1, Shibata teaches (figs. 1 and 4) a semiconductor device, comprising: semiconductor material (10); photosensitive elements (2) located on the semiconductor material (1); and a transparent plastic material (20) covering the photosensitive elements.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7, 11-13, 15, 16 and 28-31, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Anderton et al. US patent No. 5,596,228.

Regarding claim 2, Shibata teaches substantially the entire claimed structure of claim 1 above except explicitly stating that the photosensitive elements are arranged in a two-dimensional array.

It is conventional and also taught by Anderton (col. 1 line 13-42) to arrange light sensitive elements in two dimensions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the light sensitive structure of Shibata in two dimensions as taught by Anderton.

Regarding claim 3, Shibata teaches substantially the entire claimed structure of claim 1 above including transparent plastic material includes injection molded epoxy resin (col. 11, line 6-45, Shibata).

Regarding claim 4, Shibata teaches (fig. 1) substantially the entire claimed structure of claim 1 above including the device of claim 3, further comprising leads (32) connected to the semiconductor material, the leads being partially encapsulated transparent plastic material (20).

Regarding claims 5 and 6, Shibata teaches (figs. 1 and 4) substantially the entire claimed structure of claim 1 above including the transparent plastic material includes a color filter, where the color filter is surrounded by transparent plastic material.

Regarding claims 7 and 28, Shibata teaches (fig. 1) an imaging device, comprising: a package formed of transparent plastic material (20); a semiconductor chip (10) located within the package, the chip including an array of photosensitive elements

for receiving an image and for generating corresponding signals, the photosensitive elements being covered by the transparent plastic material.

Shibata teaches that his invention can also be applied for IC having a light sensitive element and process circuit and a two-dimensional image sensor (col. 12, line 43-50).

Regarding claim 29, Shibata teaches substantially the entire claimed structure of claims 7 and 28 above including the transparent plastic cover includes a color filter (fig. 1).

Regarding claim 30, Shibata teaches substantially the entire claimed structure of claims 7 and 28 above including the housing is formed of ceramic material (col. 11, line 54-56).

Regarding claim 31, Shibata teaches (fig. 1) substantially the entire claimed structure of claims 7 and 28 above including the housing (20) is formed of molded plastic.

Regarding claim 11, Shibata teaches (fig. 1) teaches an image source for transmitting an image; a first semiconductor device for receiving the image and for generating corresponding signals; and a first package for protecting and supporting the semiconductor device, the package being formed of transparent plastic material, the plastic material including injection molded resin for transmitting image from the image source onto the first semiconductor device.

Shibata does not explicitly teach the limitation an image source for transmitting an image. Shibata teaches that the light sensitive chip (10) can convert a light signal to

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an electrical signal as in photodiode (col. 4, line 36-57) and also teaches the light sensitive device can be applied an image sensor such as CCD (col. 12, lines 43-53). Therefore, Shibata implicitly teaches the limitation of a first semiconductor device for receiving image and for generating corresponding signals.

The recitation an imaging system has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 12, Shibata teaches substantially the entire claimed structure of claim 1 above except explicitly stating that the image source includes a lens.

It is conventional to fit an image source with a lens.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a lens structure in the device of Shibata.

Regarding claim 13, Shibata teaches substantially the entire claimed structure of claim 1 above except explicitly stating that the system of claim 11 further comprising a second and third semiconductor devices, and second and third packages for protecting and supporting the second and third semiconductor devices, the second and third packages including injection molded resin, and wherein the image source is arranged to simultaneously transmit the image onto the first, second and third semiconductor

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devices, and wherein the first, second and third semiconductor devices include complementary color filters.

Shibata teaches a light sensitive (10) that is molded in a transparent mold (20). The light sensitive structure can have more than one device where each device has a complementary color filter.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have more than one semiconductor device as claimed in order to form a functional device.

The limitation that the image source is arranged to simultaneously transmit the image onto the first, second and third semiconductor devices, is not given patentable weight. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 15, Shibata teaches substantially the entire claimed structure of claim 13 above including first, second and third packages include, red, green and blue filters.

Regarding claim 16, Shibata teaches substantially the entire claimed structure of claim 13 above except explicitly stating that first, second and third packages include cyan, magenta and yellow filters.

Shibata teaches package including red, green and blue filters.

Cyan, magenta and yellow colors are fundamental colors that all colors are formed from.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form color filters based on the primary colors as claimed.

Claim 8, is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Koo US patent No. 6,169,295.

Regarding claim 8, Shibata teaches (figs. 1 and 4) substantially the entire claimed structure of claim 1 above except explicitly stating that the package includes a lens for transmitting the image onto the photosensitive elements, the lens being formed of the transparent plastic material.

It is conventional and also taught by Koo to incorporate a lens with an imaging device and also using the same transparent plastic material for forming the lens (fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate lens structure taught by Koo in the device of Shibata in order to cut process steps.

Claims 9, 10 and 14, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Koo and in further view of Iida et al. US patent No. 5,278,009.

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Shibata teaches (figs. 1 and 4) substantially the entire claimed structure of claim 1 above except explicitly stating the filter is formed of the transparent plastic material.

It is conventional and also taught by lida (abstract) forming color filter structure using transparent plastic material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use transparent plastic material taught to form color filter as taught by lida in the device of Shibata in order to cut processing time.

Regarding claim 14, Shibata teaches substantially the entire claimed structure of claim 11 above except stating that the color filters are molded into first, second and third packages.

Shibata teaches molding one color filter into a package.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mold more than one color filters into a package as claimed in order to form a functional device.


### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Admassu Gebremariam whose telephone number is 703 305 1913. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 703-308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to read "Tom Thomas". The signature is written in a cursive, slightly stylized font.

TOM THOMAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

Samuel Admassu Gebremariam  
November 4, 2002